Forging Alliances for Economic Growth in the 21st Century

The Hawaii-Okinawa ALOHA Partnership

State of Hawaii
Department of Business, Economic Development & Tourism

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Preface

This report stems from the perspective that Okinawa and Hawaii, like the big powers attending the G8 Summit, will be confronted with major challenges in the New Economy of the 21st Century. Its focus will be on both the need and means for regional cooperation in dealing with these challenges.

Its genesis was at meetings in 1997, of representatives from Hawaii, Okinawa, and Japan's Ministry of Foreign Affairs, who sought to identify and pursue areas for cooperation that could improve our respective economics and quality of life. Its basis has been the formation of an Okinawa-Hawaii partnership and implementation of collaborative projects under jurisdiction of an appropriately-termed ALOHA committee. The very active cooperation by Japan's Consul Generals in Hawaii, Kishichiro Amae and Gotaro Ogawa, as well as many high-ranking officials of the Okinawa Prefecture, has been instrumental to the progress of this project.

This report provides information on the derivation, present status, and future tasks to be performed under this partnership. As to its rationale and purpose, Deputy Governor Makino of Okinawa put it best in his opening remarks at the recent ALOHA partnership session at Naha, when he said:

> "Okinawa Prefecture and the State of Hawaii have a long history together, a history of close ties in not only intellectual fields, but also in economic development and similar concerns. As we look at the goals of the Okinawa-Hawaii Project, we see that in the Asia-Pacific region we can move toward resolution, and that many of the resolutions can derive from suggestions put forth from the ALOHA committee"

I share the Deputy Governor's high expectations.

--Seiji F. Naya
Director, DBEDT
State of Hawaii

The Hawaii-Okinawa ALOHA Partnership:
Forging Alliances for Economic Growth in the 21st Century

G8* and ROW** Challenges

As leaders of the G-8 nations gather in Okinawa for their annual Summit meetings, they will be faced with challenges stemming from the 20th Century and extending into the 21st. At the same time, with the convening of the Summit in an island amidst the Asia Pacific, has come the realization that the promise of a Pacific Century is upon us, and with it the challenges and opportunities of a global, knowledge-based economy.

The degree to which inhabitants of the Asia-Pacific region can successfully engage in this new economy will depend on the ability to mobilize critical human, environmental, and technological resources in a timely and cost efficient manner. In particular, it will rest upon a willingness to identify common problems and synergize collective capabilities – capitalizing on strategic assets and comparative advantages, and promoting, wherever possible, the innovative transfer and application of technology to enhance productivity and quality of life.

Dealing with Global Issues at the Summit

It is not the purpose of this slim document to delve into the broader G8 Summit issues at any great length. However, they do form an all-encompassing backdrop for the programs to be discussed in this piece, and are encapsulated as follows:

The New Economy

This has probably been the most widely used terminology describing our current economic circumstances. The term, in part, stems from the widespread impact of computers in such forms as E-commerce in business, electronic polls in politics, and high flying technology stocks on Wall Street. It has resulted in a proliferation of production networks and allowed firms to specialize, focus their research efforts, and leverage their scarce managerial and marketing skills.

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*Canada, France, Germany, Italy, Japan, Russia, United Kingdom, United States

** Rest-of-World

For the purposes of this publication, it is useful to characterize the New Economy as (1) a knowledge and idea-based economy where the keys to job creation and higher standards of living are innovative insights and adaptive technology, embedded in services and projects; and (2) an economy where risk, uncertainty, and constant change are the rule, rather than the exception. More specifically, it is an environment where an increasing share of economic value is derived from electronic means, where a majority of the economy and society are linked through digital networks, and economic functions are conducted mainly through digital information technology.

However, emergence of a New Economy does not mean we must discard old truths nor can we ignore some of its negative consequences. Our research efforts,whether they utilize the latest advances in high technology or more conventional means of investigation, must produce the most relevant and feasible means of dealing with the problems at hand.

Globalization

This term is increasingly used all over the world. For example, the continuing globalization of economic activity (advanced by the changes in information technology) provides new opportunities for businesses to serve overseas markets. Globalization presents new competitive challenges that promise to raise productivity and lower the cost of goods and services for residents.

It has also reinforced the openness resulting from trade liberalization and the removal of barriers to capital mobility.

On the other hand, globalization calls for much closer cooperation among enterprises, regions, and nations. It has rendered nation-states more susceptible to external shocks and contagious consequences that can precipitate and extend banking and currency crises and damage the real economy. In addition, rapid economic growth and unrestrained industrial development have raised the specter (or perhaps the reality) of global warming. The demand for technologies that use less energy or that generate energy with lower emissions of greenhouse gases, will undoubtedly rise. Global warming concerns may thus alter existing industries and industrial processes.

Localization

While globalization has pushed nation-states to focus on supranational issues and increasingly circumscribed their choices, at the same time, they are being confronted with

subnational pressures and burgeoning local demands. Localization, a term not as widely acknowledged as globalization, refers to the demand for autonomy and political voice expressed by regions and communities. It stems mainly from the strength of local and ethnic identity – reinforced by education, better communications, and the rising concentration of people in urban areas, together with dissatisfaction with the ability of the state to deliver on promises of development.

Globalization and localization enhance the prospects for rapid and sustainable growth in developing countries. The increased availability and more efficient allocation of resources, freer circulation of knowledge, more open and competitive attitudes, and improved governance could all contribute to faster growth. But there are also risks. Globalization results in greater exposure to capital volatility—as the financial crisis that erupted in 1997 demonstrated. Measures introduced to satisfy local demands may lead to macroeconomic instability if fiscal discipline is not exercised by subnational entities. Moreover, although the concentration of industry and skills in growing urban area could raise living standards in these areas, the promise could prove elusive in the absence of national policies designed to curb the spread of poverty and violence.

Marginalization

This absence of deliberate and deliberative attention has been termed "marginalization." Marginalization refers to those elements of society who may be left out as human progress and economic growth otherwise proceed. For example, the poverty groups left behind in economic development projects, the smaller countries or entities that may be submerged by international decision-making, or the geographic sectors, including urban, that may be polluted as the result of accelerated growth. Too often, major elements of society are neglected, scourged, or marginalized. We may not encounter that crevasse in our mutual endeavors, but should be aware of unintended consequences. Regional cooperation will be critical in dealing with such ubiquitous issues.

Regional Cooperation

Finally, regional cooperation is a widely used mantra in international affairs. The regionalism trend has affected the entire world, and Asia is no exception. What probably distinguishes regionalism in Asia from the rest of the world is its focus on "open regionalism"; that is, the Asian way is to promote intra-regional liberalization, trade, and

investment facilitation, harmonization, and other forms of cooperation, with the view of being consistent with non-discrimination, and extending reciprocity to other regions wherever possible.

The Okinawa-Hawaii ALOHA Partnership research program follows this approach. Each project is being developed with the view of potential application and assistance to neighboring areas; e.g., Pacific Islands states and other developing countries in the Asian continent.

Rationale and Initiation of the Hawaii-Okinawa Partnership

The basis for cooperation between the subject jurisdictions was founded on both their uniqueness and similarities. As island groupings geographically separated from their respective mainlands, Okinawa and Hawaii present ecological and environmental problems that other states and prefectures do not encounter. Although they both share warm subtropical climates and have approximately the same sized population, there are distinct differences in their political and economic heritage.

Hawaii attained its statehood in 1959, while Okinawa reverted back to Japanese jurisdiction in 1972. Both entities have engaged in tropical agricultural production, but Hawaii has transitioned rapidly into a prominent global tourism economy, while Okinawa remains largely reliant on mainland Japan visitors. Yet the fact that there are many people of Okinawan ancestry residing in Hawaii creates a close cultural affinity between the two island entities.

Probably the most important similarity facilitating cooperation between Hawaii and Okinawa is the expressed desires of their leaders Governor Benjamin Cayetano and then Okinawa Governor Masahide Ota to promote increased internationalization of their respective economic development initiatives with a focus on serving as economic nodes for the Asia-Pacific region. Their mutual interests in reaching that level through progress in sustainable and diversified economic development, environmental protection and resource preservation, technology-based development, and expansion and diversification of their visitor industries were the pillars underpinning deliberations leading to the formulation and activation of the cooperative endeavors.

The selection of cooperative projects was based on mutual acknowledgment of the following criteria: joint interest in the subjects to be pursued, recognition of an

important problem to be resolved through cooperative endeavors, and the existence of recognized expertise on one or both sides to recommend meaningful, actionable solutions.

To encourage a focused discussion, it was decided to limit both the topical selection and expert participation to three broad areas: academic and technological cooperation, sustainable and diversified tourism, and environment and development. It was also strongly suggested that the framework for cooperation should also be open to new initiatives which can become the basis for future cooperation among interested parties on both sides.

From these discussions, the State of Hawaii and Prefecture of Okinawa agreed to cooperate in identifying and promoting areas for scholarly and scientific collaboration that could improve their respective economies and qualities of life. This resolution led to the formation of the "Okinawa-Hawaii ALOHA Partnership", which was officially inaugurated in November of 1997 at a meeting in Yomitan-son, Okinawa, of representatives from Hawaii, Okinawa, and Japan's Ministry of Foreign Affairs.

Collaborative Projects of the Hawaii-Okinawa Partnership

The following projects form the programmatic core of the ALOHA Partnership, and are being pursued with administrative and funding support from the Okinawa Prefecture Government, the Ministry of Foreign Affairs, and the Hawaii State Government. They are: 1) development of biodiversity databases to help conserve and manage natural resources; 2) applications of remote sensing technologies for coral reef monitoring and preservation; 3) applications of deep sea water technologies to support industry development in agriculture and aquaculture; 4) agricultural pest research and control; 5) exchange of telemedicine technology and expertise between the University of Hawaii Medical School and Chubu Hospital; 6) joint studies on the current and future trends in the visitor industry and the development of market data bases and marketing techniques to support sustainable tourism; and 7) international educational and business exchange.

Development of Biodiversity Databases for Natural Resource Management

This project proposes a comprehensive approach to management of Okinawa's natural resources. It draws upon the Hawaiian Islands as the best natural laboratory in the world for evolutionary biology research because of their tremendous biodiversity of unique plants and animals found nowhere else in the world. At the same time, Hawaii is also recognized as the "endangered species capital"of the world, faced with an extinction crisis of natural heritage. Through the application of basic evolutionary theory such as the genetic mechanisms of species formation and the adaptation to changing environmental conditions, as well as the biology of rarity and of small population size, the State is beginning to address conservation questions and the means of turning the tide against extinction.

At the same time, the Hawaii Natural Heritage Program (HINHP) at the University of Hawaii maintains the most comprehensive database of Hawaii's rare and endangered species of plants, birds, insects and other wildlife. By using Geographic Information System (GIS) tools, it has been able to document the distribution and abundance of most of these species. This in turn has been invaluable for other state and federal government agencies in developing management plans for the critical habitats where these organisms are found. The goal of the project is to develop the database and GIS of the HINHP into one of the premier facilities for research and training in the use of computer data processing and GIS technology for ecosystem and natural resources management in the Pacific Region.

Like Hawaii, Okinawa is blessed with a unique natural resource with many endemic species found nowhere else in the world. Just within the Yanbaru area for example, nearly 3000 species of plants and animals (including birds, mammals, insects, etc.) were discovered during a recent survey conducted by researchers at the University of the Ryukyus and other institutions in Okinawa and Japan. As a result of this survey, two new species of bats have been discovered, named and described; truly an amazing discovery. Many new species of plants and insects have also been discovered and are currently being named and described by taxonomists in Okinawa. Unfortunately, many of these species are also being listed in the Red Data Book of Okinawa and of Japan because of degrading habitats. Each of these species play an extremely important role in the stability of the ecosystem, especially the watershed ecosystem, and when even a

single species is impacted by human activity or the incursion of alien species, the entire ecosystem may be affected negatively with long-term effect on its sustainability.

In order to develop more effective management and stewardship programs for these natural resources, it will be necessary to document distribution and abundance of the plants and animals that comprise the native ecosystems. By establishing a computerized database of a region's biological diversity and through the use of GIS, it would be possible to map the patterns of distribution of these species.

Protection of watershed ecosystems to sustain water quality and quantity is critical for economic development. The natural heritage database and GIS tool wouldl be critical for developing effective long-term management plans and to ensure the sustainability of the watershed to provide an adequate water supply for further economic development, such as in diversified agriculture and in tourism.

The fringing coral reef ecosystem is also an important component of an island's economic base. Fisheries, tourism, recreation, and other marine activities are dependent on the health of the coral reef ecosystem. Impact from red soil erosion and other human activities such as agriculture, construction of roads, dams, and other structures can result in soil run-off into this valuable resource. Again, a GIS analyses of hydrological features, the geomorphology of the coastal regions, but also of the interior lands will be extremely important for protecting the marine ecosystem as well.

It is proposed that the program in Hawaii in partnership with existing facilities and programs in Okinawa, develop a major center for biodiversity database and GIS to document the natural heritage of Okinawa. In addition to documenting and mapping the distribution of Okinawa's natural monuments and ensuring their sustain ability, the facility could then serve as a major research and training center for natural resource managers from throughout the Asia Pacific Region.

Participating Institutions

Hawaii: Center for Conservation Research & Training, Univ. of Hawaii
Hawaii Natural Heritage Program, CCRT/UH

Okinawa: Nature Conservation Division/OPG

Tropical Technology Center
The University of the Ryukyus

Coral Reef Monitoring and Restoration

Protection of coral reefs achieved national attention recently with an executive order by President Clinton for federal agencies to designate marine protected areas from which fishing, oil drilling, mining and dumping would be prohibited. The President pointedly remarked that his order will "permanently protect Hawaii's rich coral reefs", which constitute 70 percent of all coral reefs in U.S. waters.

Okinawa too has long been concerned with the decreasing biodiversity of coral reef organisms and the decline of near shore reefs which directly affects its tourism and fishing industries.

The overall objective of the Okinawa-Hawaii Coral Reefs (OH-CORE) Project to develop monitoring methods and remote sensing technologies to understand and mitigate these processes is both timely and urgent.

Additionally, little is known regarding the source of the larvae which supply the fringing reefs of Okinawa islands, making management of larval source reefs difficult. This project will develop monitoring techniques, both in water SCUBA and remote sensing technology, to meet this need and evaluate changes in coral reef community composition.

Bottom types (i.e. coral, sand, mud, rock, etc.) will be determined through the use of airborne hyper-spectral imagery and classification algorithms developed at the University of Hawaii. The maps of these bottom types can be used to identify plumes of mud, often associated with long-term sediment input, and distribution of algae and coral. Corals are usually covered by algae after nutrient enrichment, Starfish outbreaks, over-fishing and freshwater kills of coral. Thus identification of terrigenous mud and algae will provide basic maps of impacts from land. In situ surveys, using SCUBA, are being conducted on the community composition of selected sites; other sites will be established for the purpose of long-term monitoring. Additionally, satellite imagery is being assessed for its usefulness in monitoring communities and bottom types through time.

Many of the populations of coral reef inhabitants are supplied by larvae, which are carried from reef to reef via oceanic currents. Certain reef systems serve as a source

of larvae for other areas. This process is thought to be driving the community dynamics of Okinawa's fringing reefs. Thus, oceanographic current patterns surrounding the island of Okinawa will be examined in detail, with special emphasis on the south and west sides of Okinawa, which are thought to be source reefs.

SCUBA will be used to collect spectral reflectances of different bottom types on both the fringing and off-shore reefs. In turn, this data will be used to calibrate the remote sensing data collect from the air. The remotely-sensed data and the reflectance data will then be used to map the bottom types and generate a mosaic of the reef areas of interest. Finally, this remotely-sensed data will be used to construct a high precision bathymetric map of Okinawa's shallow water reefs. In situ monitoring sites will be chosen using information gained from both the bathymetric and bottom type maps. The effectiveness of using satellite imagery as a means to monitor change in reef bottom type composition will be assessed. If this is found to be useful, then periodic assessments of bottom types of Okinawa's reefs will be made.

All this information will be used to provide recommendations for managing future development and sustainability of Okinawa's coral reef communities.

Participating Institutions

Hawaii: Hawaii Institute of Marine Biology

Okinawa: Research Institute of Subtropics

Applications of Deep Sea Water Technologies

Throughout the tropical and sub-tropical oceans, pathogen-free seawater at a depth of 1000 meters can be found at a temperature of 4 degrees Centigrade. This fluid is rich in the compounds required to promote biological growth, and combined with sun-warmed surface waters, can naturally produce electricity, with freshwater as a by-product.

Off the coast of both Okinawa and Hawaii, deep ocean waters can be pumped to land-based facilities to support a wide range of industrial enterprises. The Natural Energy Laboratory of Hawaii Authority, located at Keahole Point on the Big Island, has been developing various marine businesses for more than two decades. Twenty-five companies are marketing or developing marine bioproducts ranging from seafood to

biopigments to pearls. The Okinawa Kumeshima facility began operations in the Spring of this year, and will initially focus on fish, shrimp and vegetables.

The ALOHA Partnership will at first support the activities at Kumeshima, and, as funds are obtained, produce a strategic plan to explore the potential for higher value products such as marine biopharmaceuticals, open ocean ranches and methane hydrates. These laboratory sites can become key marine laboratories for environmental enhancement.

As world fisheries continue to decline, global climate warming occurs and innovative options are sought for energy and habitats. The Okinawa-Hawaii ALOHA Partnership could provide the expertise for Pacific Islanders and the world at large to successfully replenish fisheries, develop cleaner ocean forms of energy, remediate the Greenhouse Effect, and ultimately build sustainable floating cities and pollution-free industrial parks.

The purpose of the project is to collaborate on the development of commercial applications of deep ocean water to the mutual economic benefit of Okinawa and Hawaii. The initial goal is to establish partnering arrangements between organizations and private enterprises in Okinawa and Hawaii in areas of mariculture, cold-water agriculture and higher-value marine bioproducts.

Thus this project will work toward developing a strategic plan to establish the Okinawa-Hawaii ALOHA Ocean Partnership to be the leading program of its type in the world. Among the questions to be addressed by the plan are:

- Can a land-based, deep ocean facility economically succeed with low value (anything edible that costs less than 5,000 yen/kilogram) products?
- What are the high value products of unique advantage to this partnership?
- How can the special characteristics available at Hawaii's and Okinawa's ocean laboratories be used to spur economic development, serve as the test site for environmental solutions, and provide novel eco-tourism attractions?
- As a tourism attraction, where off Okinawa and Hawaii could Aquapolis (or other very large floating structure) optimally be positioned?

- Are there optimal sites for marine biomass plantations and open ocean ranches, or attractive seabed resources near Okinawa (strategic metals and methane hydrates)?

During the first year of this project, Hawaii will continue to assist Okinawa with the development of its Kumeshima facility. Year two will focus on production of the ALOHA Deep Sea Water Strategic Plan, as well as the organization of an open ocean development group. During year three, at least two Okinawa-Hawaii companies will be formed to market marine products. By the end of the fifth year, Aquapolis will be commissioned as the first marine incubator park.

Participation Institutions

Hawaii: University of Hawaii
Natural Energy Laboratory of Hawaii Authority
Hawaii Department of Business, Economic Development & Tourism
U.S. Department of Defense
U.S. Department of Commerce
U.S. Department of Energy

Okinawa: Okinawa Prefectural Government
Kumejima Deep Ocean Water Applications Facility
University of the Ryukyus
Research Institute of Subtropics
Ministry of Foreign Affairs
Science and Technology Agency
Ministry of International Trade and Industry
Ministry of Construction

International: International Ocean Alliance

Agricultural Pest Research and Control

The importance of fruit fly and other agricultural pest research and control has long been recognized in both Hawaii and Okinawa, as well as other subtropical island areas. Insect infestation has hampered the development of diversified agriculture in these areas and has all but prohibited exportation of tropical produce to large consumer markets.

A more optimistic note has been sounded recently with the announcement that Hawaii mangoes will now be permitted to be exported to Japan and by the end of the year also to the U.S. mainland. Their freedom from fruit fly infestation is being attributed to success with a vapor heat treatment similar to that used for Hawaii papaya exports.

Thus a positive experimental environment has emerged for the partnership collaboration between Hawaii and Okinawa crop scientists, with outreach to other Pacific Basin areas such as Taiwan and other Pacific islands.

In this case, Hawaii can draw upon the successful experience of Okinawa in eradicating the melon and Oriental fruit flies in recent decades. Hawaii, in turn as part of the Partnership arrangement, will contribute its expertise based on its findings from its state and federal laboratories on the biology, rearing, and control of this group of pests.

In addition, resources from a multi-year area-wide suppression initiative, recently funded by the U.S. Department of Agriculture, will be made available to the project.

Additionally, the Taiwan Agricultural Research Institute (TARI) has expertise in biological control and is also seeking to control fruit flies in agricultural areas. Okinawa and Taiwan researchers involved in the containment and control of fruit flies are being invited to participate in the studies proposed for Hawaii to assess the use of integrated technologies for area-wide control of fruit fly in high fruit fly pressure areas. Lessons learned and technologies developed will benefit Hawaii and Okinawa as efforts are made to network with Asian and Pacific partners to control the spread and to minimize the damage of this important group of pests.

A further aspect of the integrated pest management research endeavors will deal with the sweet potato weevil. The presence of these pests prevents the export of sweet potato crops to the U.S. mainland and to mainland Japan, from Hawaii and Okinawa, respectively, unless quarantine treated.

Sweet potato weevil control in the field now relies on chemical fumigation of soil or the application of other pesticides. Okinawa and Hawaii are committed to collaborate in joint studies to develop sterile insect techniques (SIT) to suppress populations of sweet potato weevil in growing areas.

The initial deliverables for this part of the project will be in the area of control techniques that can be applied to assist farmers to control and minimize damage to existing production. Techniques developed will be refined in an effort to develop control strategies for the eradication of this group of insects.

Participating Institutions

Hawaii Department of Agriculture

U.S. Department of Agriculture, Agricultural Research Service

Okinawa Ministry of Agriculture

Taiwan Agricultural Research Institute

Cooperation in Telemedicine Technology

The proposed Telemedicine Project builds on a 33-year relationship between the University of Hawaii School of Medicine and Okinawa's Chubu Hospital and serves to strengthen the Okinawa Residency Program, as well as foster consultative relationships between physicians in Okinawa and Hawaii. Begun in 1966, with funding provided by the United States, a medical residency program modeled after U.S. programs was organized by Okinawan and other Japanese medical school graduates. The University of Hawaii provided the initial staff of doctors, nurses and technicians, and the program continues to attract some of the country's most outstanding students. The program has produced more than 400 graduates, many of which have remained as staff at Chubu Hospital. Thus the goal of training doctors from the community and encouraging them to remain and become part of their community has been largely achieved.

Technological advances as embodied in telemedicine now permit physicians to "see" patients over distance and to readily consult with colleagues and provide unprecedented access to health care despite scattered island geography and the concentration of medical professionals in a single city as found in both Okinawa and Hawaii.

The ALOHA Partnership project proposes to develop a 324 kbps (3 ISDN line) or better broadband telecommunications linkage between Chubu Hospital and the Hawaii School of Medicine. This commercial linkage will permit full motion (30 fps) video between the two sites. A project website to be hosted at the University of Hawaii will

house all necessary clinical information regarding patients, slides or x-ray studies, which are to be evaluated as part of the project.

The clinical telemedicine linkage between the Hawaii School of Medicine and Chubu Hospital will be programmed to provide for postgraduate educational purposes in such areas as Internal Medicine, Pediatricts, Ob/Gyn, Surgery, Neurology, Dermatology, Psychiatry or Family Practice. These lectures will be in English and will be available both real-time (when feasible) for direct lecturer-student interaction, as well as archived for display via streaming video on the Internet Server.

The project also proposes to establish at the University of Hawaii School of Medicine, consultative services in Tele-Pathology, Tele-Radiology, and Tele-Dermatology. These services will be available to perform tele-consultations on demand at Chubu Hospital in Okinawa. Linkage with the Cancer Tumor Board in Hawaii will be established via teleconference attendance at Board meetings and consultation on difficult oncological cases.

The chief beneficiaries of this project would include: healthcare providers in Okinawa and Hawaii; students enrolled in the Okinawa Residency Program; and teaching faculty in University of Hawaii School of Medicine.

Participating Institutions

Hawaii: University of Hawaii School of Medicine

Okinawa: Okinawa Chubu Hospital

Sustainable Tourism

The growth of tourism in the Asia-Pacific area has paralleled the expansion of national economies in the region. Throughout the last decade, the Asia-Pacific region has led the world in tourism growth, registering an average annual increase of 6.9 percent. Despite declines in visitor arrivals in 1997 and 1998 as a result of the economic crisis in the region, tourism rebounded in 1999, and the Asia-Pacific region led all other regions worldwide with a growth rate of 7.5 percent and a record total of nearly 94 million international arrivals.

The continued expansion of tourism in the region has presented a number of challenges to governments with regard to infrastructure, accommodations capacity, and the range of tourism products and services to meet the demand from different markets.

There has also been increasing concern over environmental, social, and cultural issues in addition to economic benefits in achieving sustainable tourism development.

The Okinawa-Hawaii partnership in tourism presents a working model for regional cooperation in tourism development which can be extended to other Asia-Pacific destinations. In 1999, Hawaii received 6,848,500 million visitors and Okinawa received 4,558,700 visitors. Both share similar characteristics in terms of population size, labor force structure, economic activities, and natural resources for tourism development. Both partners share a pool of expertise in tourism including government planners, educators and researchers, and private sector managers who have cooperated in annual conferences and meetings to exchange information and data since the project's inception in 1997.

As strategic partners, Hawaii and Okinawa are cooperating in identified areas to showcase tourism development and address the benefits of collaboration in dealing with pressing issues to other Asian and Pacific destinations. The issues identified by the Okinawa-Hawaii partnership present ongoing challenges faced by all tourism destinations and include the need to:

- promote quality in planning and design to achieve sustainable tourism objectives;
- cooperate on regional marketing opportunities;
- facilitate the exchange of current research and information on tourism issues;
- coordinate tourism statistical and data collections methods; and
- expand tourism-related education and training for human resources development.

To deal with impending issues in tourism growth and development, individual or joint research will be carried out in such areas as: Japanese senior market, Health and Wellness tourism, improvement of tourism infrastructure, leisure and tourism, and community awareness programs on tourism.

Both Okinawa and Hawaii are interested in targeting new markets, and the Asia-Pacific region offers great potential for future growth in outbound tourists for both destinations. The State and Prefecture are expected to benefit by sharing tourism information and resources as a basis for development of tourism policy.

Participating Institutions

Hawaii: DBEDT/Research & Economic Analysis Division
Hawaii Tourism Authority
University of Hawaii School of Travel Industry Management (TIM)

Okinawa: Okinawa Convention & Visitors Bureau
Department of Planning and Development/OPG
University of the Ryukyus

International Educational and Business Exchange

The educational and business exchange component of the Hawaii-Okinawa Partnership draws from the long-standing positive relationships between Okinawan students, the East-West Center, and the University of Hawaii, where many of the Center grantees obtained their academic degrees.

Okinawa has perhaps the largest and most active overseas East-West Center alumni chapter with more than 200 members, including a former governor, a former vice governor, the presidents of two major universities, and a deputy mayor of Naha. The high regard with which the Center is held has been behind persistent and repeated Okinawan proposals to Tokyo for funding for an Okinawan-based "North-South Center" modeled after the East-West Center.

Hawaii is also the base of the "Uchinanchu movement," the network of overseas Okinawan business from such distant locations as Okinawa, Hawaii, California, Argentina, Bolivia, Brazil, Peru, and the Philippines.

Since the return of Okinawa to Japan, the special ties between the Center and Okinawa have tended to lapse. This is both because Okinawa began to be treated as a part of Japan and thus received less attention than when it was administered by the United States and because of the Center's more limited resources. The Okinawan EWC alumni association recently approached the President of the EWC to express concern about the aging of Okinawan EWC alumni and the lack of newer generation Okinawans with the strong ties to Hawaii and the United States that the older generation feels. In their view, the East-West Center would play a strong, positive role in strengthening Okinawan-US ties at a time when the end of the Cold War has undercut the perceived rationale for the large US bases in Okinawa.

In view of the constructive historical relationships between the East-West Center, Hawaii, and Okinawa and the continuing interest in the East-West Center by the Okinawa

elite, the Center has suggested to the American and Japanese governments that an Education and Business Initiative be established to reinforce and update this relationship.

It would be designed to provide enhanced international experience, training, academic, and teaching/research exchanges, and to complement existing business and educational opportunities within Okinawa with a strong international and Pacific-Asia regional dimension.

The initiative has four central components:

- Educational training in business and the Asia-Pacific region for Okinawan graduate students. This is providing young Okinawans opportunities to live and study abroad, learning business, language and other cultural skills associated with effective engagement in the region. The East-West Center invites top Okinawan students from universities in Okinawa to participate, including students from American universities operating in Okinawa.
- Faculty exchange designed to strengthen teaching and research in Okinawa and provide faculty-training opportunities abroad.
- Practical internships in business corporations, particularly the Worldwide Uchinanchu Business Network of Okinawan and overseas Okinawan businesses.
- Assistance to Okinawa by the East-West Center in developing conference and dialogue activities under the label of "Pacific Asia Center" in Okinawa.

This project seeks to prepare future international leaders for Okinawa to promote a better and more sustainable economy, which is less dependent on government subsidies and the military economy. The East West Center would meet its objective of promoting a well-integrated international community.

Assuming funds are available; the following can take place:

1) Awards to Okinawan students can begin immediately since the process and procedure is in place.
2) Faculty and researcher exchanges, training the teachers so they can teach their Okinawan students of the world beyond Okinawa.

3) Business internship training and networking to improve international business opportunities.
4) An established center, similar to the East West Center in Okinawa, to enhance the international image of Okinawa by creating a hub for international activities.

Participating Institutions

Okinawa: Okinawa Prefecture Government

Hawaii: East-West Center

Perspectives on Okinawa's Future

This report began from the perspective that Okinawa and Hawaii, like the big powers attending the G8 Summit, will be confronted with major challenges of the 21st (what many have termed the Pacific) Century. To deal with these challenges – those of the New Economy's electronically and digitally phased environment; globalization, localization, and marginalization – there is ample and critical need for regional cooperation.

This provided rationale for initiation and implementation of the so-termed ALOHA partnership to pursue collaborative efforts in areas of mutual interest and concern. These ranged from broad cooperative programs in education, health, and human resource development, focused industry (tourism) sector expansion, appropriate utilization vs. preservation of natural resources down to the very microscopic impact of the fruit fly.

The work involved would be of keen mutual interest to the two island entities and employ their best scientific and research talent. Support would be attained from the governments involved and time-lines are to be established for deliverable results.

This concluding section returns to a broader theme: extending beyond the results of the immediate studies undertaken, what can the ALOHA Partnership say about Okinawa future? As has been previously suggested, the New Economy means not only a new gaggle of electronic mechanisms, but also new means of dealing with old problems.

That is, the New Economy has spawned a knowledge revolution, an acceleration in the generation of new ideas and a decline in the effort and cost of disseminating them. Thus, with changed perspectives, there can be new opportunities. Remote villages (and

islands) can be interconnected through the Internet and have access to information and knowledge deemed unreachable a quarter century ago. Distance education can bring the finest teachers in the world to living rooms or study halls around the globe.

This knowledge revolution is attributable to advances in modern science and technology. But what is most significant are the changes in modes of thinking that modern science brings with it. Scientific thinking does not just accept traditions and received wisdom. It questions beliefs, asking, what is the evidence? Once one begins to question traditional beliefs, change is inevitable. The scientific process itself is one of constant change, and one idea leads to another, often challenging the previous one as new evidence overturns existing beliefs.

Science also recognizes its limitations. Uncertainty is certain, and science has to be precise about the degree of uncertainty associated with each statement or recommendation. It cannot assert with confidence what is only based on partial information. Uncertainty counsels humility, especially when imperfect or incomplete knowledge is applied to real world situations affecting million of individuals.

With these strong caveats in view, the report puts forth two suggestions to be considered by appropriate authorities for Okinawa's future.[1] In fact, aspects of the proposals have already been suggested by Okinawan sources.[2]

Okinawa as a Testing Ground for Free Trade

It may be too much to expect that Okinawa can be completely designated as a duty-free trade center. It is a prefecture of Japan and therefore bound by national laws and regulations. However, Okinawa might be used as a "testing ground" for various trade liberalizing actions in harmony with precepts of the Asia-Pacific Economic Cooperation (APEC) of which Japan is a principal member. Moreover, as an economic leader in the Asia-Pacific region, Japan's role in establishing an open trading system and resolving global issues involving trade, investment, and the environment, is very critical. In particular, Japan can choose to proceed with trade liberalization ahead of other countries, and it can do this by having Okinawa serve as the "testing ground" for the liberalization moves.

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[1] Seiji F. Naya, "Perspectives on Okinawa's Future," Hawaii State Department of Business, Economic Development, and Tourism, November 1997.
[2] Hiroshi Kakazu, The Challenge for Okinawa Thriving Locally in a Globalized Economy. Okinawa Development Finance Corporation, March 2000.

If Okinawa can achieve the goals of free trade that need to be met by Japan earlier than set out in the time schedule, it could lead to significant benefits to both this prefecture and the country.

This process might occur in three steps. First, is to establish export-processing zones in Okinawa. In this arrangement, no duties are paid for goods imported into the zone if they are then exported. However, duties will be applied when goods are sold to the domestic market.

Most Asian countries have established such zones, one example is the manufacture of Timex watches in the Philippines export-processing zone. Inputs are imported to assemble the watches for export. But if the watches are sold in the domestic market, the duty is assessed. In many of the Asian economies, these economic zones have proven to be successful in promoting development of their export sectors. Hawaii has a similar arrangement in its Federally-authorized Foreign Trade Zone No. 9, although its export expansion has been limited.

The next step would be for Okinawa to go beyond the limited special economic zone, and allow duty-free imports of all raw materials and intermediate components that are used in the manufacturing sector and permit this, regardless of whether the good produced is for the export or domestic market, including mainland Japan. This would have wider applicability, and has the effect of minimizing losses for those industries that would be hurt from freer trade.

Okinawa would need to be granted special exemptions for tax and tariff treatment by the Japanese government. Some limits would need to be placed on the type and quantities of goods that would be allowed this duty-free status. Duty-free imports of inputs for manufacturing could be subject to domestic content requirements, for example. But even in this instance, it is important that the domestic content requirements be defined by rule rather than by inspection.

By becoming an island-wide zone for duty-free imports of machines and raw materials, if Okinawa succeeds in stimulating investment, business activity, and incomes, then it will send a clear message to Japan that movement in this direction has the potential for great benefits.

The final step in establishing a duty-free area would be to allow consumer products to be imported duty-free. This approach could result in as a shopping mecca for tourists, but it is probably most difficult to achieve because it is the most vivid case of a "two systems-one country" policy, as stipulated for Hong Kong.

However, adopting these liberalization steps is no guarantee for success. Other associated complementary measures such as air access, visa problems, tax incentives will have to be negotiated and put in place.

Okinawa as Japan's Research and Educational Center for the Pacific Islands

The second proposal for future consideration would be for Okinawa to fill a particular niche market and develop an educational and research institute that focuses on studying issues faced by the developing Asian and Pacific Island nations. This suggestion is akin to the ALOHA partnership project involving educational and business exchange programs at the University of Hawaii and East-West Center. The expertise and knowledge that UH has in fields such as Asian-Pacific studies and languages, astronomy, ocean research, tropical agriculture, and travel industry management have drawn scholars and students to Hawaii. The East-West Center complements the University by bringing in researchers to work on projects with students, providing them with valuable hands-on experience.

In addition to serving as a magnet for people to come to Okinawa, in the longer term, the experiences of those who participated in the programs of such an institute will be shared with others on the mainland and the Asia-Pacific. And ideally the strong friendships and ties that developed during their stay in Okinawa will lead to improved relations and greater economic and cultural interaction between Okinawa and Japan and the global community. Like Hawaii, which used statehood to its advantage, Okinawa can also use its status as a prefecture to further its future growth and development.

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